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XXVII.—*Observations on the Lacquered or Japanned Ware of Ava.* By
Major HENRY BURNES, Political Resident at Amarapura.

Read the 18th of February 1832.

THIS manufacture has been named Lacquered Ware, from an idea, I suppose, that lac forms a part of it; but this is a mistake, no lac is used, and the bright red colour is given by vermilion, which is made by the Burmese from cinnabar (*ayain*), imported by the Chinese caravans from *Yun-nan*.

The principal material is known to be the Burmese varnish, or *Theet-tsee*, which means literally “wood oil.” There must be a great abundance of it in this country, as the usual price at the capital is only three-quarters of a *tical* per *viss*, or about five-pence per pound; but it is often much adulterated, and requires to be strained through a piece of cloth before being used. There are three descriptions of it in Ava. The first and purest is called *Theet-tsee ayoung-den*, from *ayoung* colour, forming of itself a beautiful black colour. The second is called *Theet-tsee anee-byau*, from *anee* red, being that commonly used with vermilion or red colour. This is said to have one quarter of water mixed with it. The third and worst description is called *Theet-tsee tha-yo-byau*, from *tha-yo*, a paste, which will hereafter be described, and to make which this *theet-tsee* is generally used. This last kind has no less than one-half of water mixed with it, and there is said to be no difficulty in making water combine with the *theet-tsee*, by rubbing the two well together in the sun. The price of the best *theet-tsee* is just now at Ava seven *ticals* for ten *viss*.

The Burmese workmen declare that the varnish will not “*ait*,” sleep, or lie, or dry well, if collected from the tree when it is in fructification, which, they say, occurs during the three months of January, February, and March. Nor will the lacquered-ware, during the process of manufacture, become soon and properly “*ma*,” or hard, in the dry hot months before the rains set in, or at any time so well as when it is lodged, as Dr. WALLICH understood, “in dark and cool subterraneous vaults.” The varnish is

placed in the sun for a few minutes before it is used, and being almost always applied with the hand, the smallest grain of sand or other extraneous substance is immediately detected and removed. When first applied, it looks of a light brown colour; but while the hand is rubbing on the varnish, it becomes darker, until it attains a beautiful black colour. Sometimes, when the frame-work is of wood, a piece of tow is used for rubbing the *theet-tsee* on, and generally, to save the hand, the first coat is applied with a rude brush made of the fibres of the coco-nut husk. After using the varnish, the hand is cleaned with a little mustard-seed oil and coarse cloth or tow. Upon asking the workmen if they did not suffer any bad effects from the varnish, as I recollected reading of some one at Edinburgh having suffered severely, they admitted that they often, and particularly when they first begin to work in it, find their hands blister, and their arms and faces swell, but that some people are much more predisposed to suffer in this manner than others. Hence they have a kind of proverb:

*Theet-tsee thek-thè thee,
Loo ma-then p'hyet-thee,
Loo then atwa ma shee.*

“ Varnish is a true witness,
It affects a man not true,
To a true man it matters not.”

About one in a hundred is said to be so predisposed. Some of the workmen told me that they always use their left hands in taking their food; and that sometimes the injurious effects of the varnish appear in blotches so much resembling leprosy, that other Burmese refuse to hold intercourse with workmen so affected. These effects, however, are removed by applying to the parts affected a composition made of teak-wood rubbed on a stone with a little water: sometimes sandal-wood as well as teak is used, but the latter is considered as the real specific. As a preventive, many workmen occasionally swallow a small quantity of the varnish.

The *theet-tsee* itself, as before observed, forms a beautiful black colour; but to improve its brilliancy and transparency, the article covered with it is often polished in the same manner as the Burmese polish their fine marble, with petrified wood powdered very fine, repeatedly washed and then dried; and for this purpose, the petrified wood of a particular tree,

called *En-gyen*,* is much esteemed. A little of some scented wood is added, but this is apparently not indispensable.⁽²⁶⁾† This polishing powder is called *En-gyen kyouk tshoowe amhoun*.

There are few colours which will preserve their tint when mixed with this varnish; vermilion answers best. The Burmese prefer a vermilion which they make themselves, to that brought from China, and it is certainly of a much brighter scarlet. Only one man at the capital, and he is attached to the palace, is said to know how to make this vermilion, which is called *Han-za-pada yowè*,⁽²⁷⁾ from the colour resembling that of the little scarlet seed with a black spot, named *glycine abrus*, or *abrus maculatus*, in MARSDEN'S Sumatra, third edition, page 171. There are two other descriptions of vermilion made at Ava, called respectively *han-za-pada-ayè*, and *han-za-pada-gouk*, which last seems more like our red lead. The vermilion brought from China is called *han-za-pada-atshoun*, and the Burmese say, that it is the refuse or grounds of the finest kind, and that it does not mix well with the *theet-tsee*. Red ochre or Indian red, called *myè-nee*, red earth, gives a duller colour, and is used for lacquered ware of the coarsest description. It is sometimes used also as a first coat, over which the vermilion is applied. These paints, when used, are first made liquid with a very small quantity of an oil brought from Laos, called *Shan-zee* or *Shan* oil, and then mixed with *theet-tsee*, in the proportion of three parts of the varnish to five of the vermilion. This *Shan-zee* is said to be extracted from the fruit of the *Kuniyen* tree,‡ the trunk of which yields the common wood oil, used in the manufacture of torches at Tavoy and Mergui. The Burmese, however, say that the *Shans* conceal the manner of making this oil, because if it could be manufactured in Ava there would be no occasion for importing it from Laos. It sells at Ava for four ticals per *viss*. The *Kuniyen* tree, which is so abundant to the southward, and which affords the inhabitants there so cheap a substitute for candles, cannot be very common near the capital, where I have never seen a torch, the petroleum only being used by all classes for lights. A mixture of this *Shan* oil and *theet-tsee*, ten parts of the latter to three of the former, is used as a semi-transparent varnish. When put over any other than black,

* The same tree is mentioned in the inscription on the Rangoon Great Bell.—See *Asiatic Researches*, vol. XVI. p. 271 and 276.

† The numbers within brackets refer to the list at the end.

‡ *Dipterocarpus turbinatus*.

it darkens the colour a little, but adds much to its brilliancy and transparency. The Burmese possess no really transparent varnish, and it would be satisfactory to know if any could be obtained from the *Theet-tsee*, by distillation or other means.

There are three descriptions of lacquered-ware in Ava. The first, and by far the best articles, are brought from the *Shan* countries, "*Shan-pyee-ga*." They may be distinguished by the lightness and elegance of the manufacture, and the superior brilliancy of the varnish and colours. The next are those manufactured at a place called *Nyoung-oo*,* and its neighbourhood, near the ancient capital, *Pugan*. These are generally distinguished by their being of yellow or green colours, and almost all the small betel-boxes, "*Kwon-eet*," in use among the Burmese, are of this kind. The best of this kind are made at *Pugan* itself, and called after that town; but the larger proportion is named from *Nyoung-oo*. The last and worst description of articles is manufactured in the city of Ava and its environs; and these are to be distinguished by the coarseness of the work, its plain red colour, and the frame being generally of wood and not of basket-work. Most of the plain red large boxes with high conical covers, *T,hamen-tsa out-gyee*, and other vessels used by the Burmese for holding food, are of this description. The lacquered boxes from Laos have upon them tasteful figures and other ornaments of a beautiful black colour, or of gold, and those from *Nyoung-oo* have them of yellow or green colours. Many of these boxes are so thin, that you may discern the basket-work through the varnish. The best ware is tried by seeing whether the edges of two sides can be made to meet, without cracking the colour or breaking the article. I believe none but a few *Shan* boxes will bear this test.

The different figures and ornaments on the lacquered ware are executed in the following manner, called *Yowon t,ho*, or engraving after the manner of *Yowon*, which was the general term formerly applied by the Burmese to Northern Laos and *Zen-may*, but which, and sometimes with *Gyee*, or great, added, is the name now given to Cochin China only. After the last coat of

* *Nyoung-oo* means "Fig-tree Point."—The name of this place, where Lieut. JOHN NORTH, one of our early Envoys to Ava, died, and was buried on the 30th August 1755, has been strangely used. Captain BAKER writes it *Young-owe* and *Pegang Youngue*—SYMES *Nioundoh*—COX *Gneayan*, *Gucayne*, and *Gucaym*—CRAWFURD *Nyaung-ngu*—and WALLICH *Gnaunee*. The Burmese lower classes scarcely pronounce the *ng* of *Nyoung*, which has led a friend of mine to write the name *Gnec-a-oo*.

varnish has been applied, and it is thoroughly dry, figures, lines, &c. are described, by the lacquered ware being scooped or scratched, just deep enough to remove two or three coats of the varnish, with rude steel tools, ⁽¹¹⁾ either sharp-pointed, or having the point slightly divided. The latter instrument is called *tsout* ; ⁽²⁵⁾ it is used like a gouge, and guided by the thumb of the left hand, whilst the right is scooping out the lines. The former instrument, called *gouk*, ⁽²⁵⁾ is often nothing more than a broken needle tied to the end of a small piece of stick ; and it is used to describe the circular lines, the lacquered-ware being turned round with the help of the knees and left hand against the instrument held steadily in the right hand. It is surprising how quickly the workmen use these rude gravers, which are sharpened with a piece of slate usually brought from *Shwè-zet-tau* on the road to Arracan, and called *Shwè-zet-tau-kyouk*. While sharpening, the instrument is held against the forefinger of the left hand, and the slate, moistened with a little spittle, is rubbed against it. The edge also of the slate on one side is made fine for the purpose of being rubbed within the divided point of the *tsout*. When the figures and ornaments are finished, a coat of vermilion and *theet-tsee* is put over the whole surface of the ware, and allowed some days to dry. The ware is then placed on the lathe, and turned round against some wet bran pressed down upon it with the left hand, and occasionally washed in water. This process rubs off all the vermilion from those parts which are in relief. A second and a third coat of vermilion is applied, and partially removed in the same manner. It is then placed in the sun for a few minutes, and when perfectly dry, a coat of the semi-transparent mixture before described is put on, rubbed off with a piece of cloth, and a second coat put on, which is allowed some days to dry, for the *Shan* oil always takes a long time to harden. This kind of engraving is the most tedious and expensive, and it is called *Shan Yowon t,ho*, the *Shan Yowon* engraving, from the circumstance of all *Shan* boxes being so ornamented. The *tsout* or *gouk*, somewhat in the manner of our wood engraving, scoops or cuts all the surface except the figures and ornaments required, which remain black, the colour of the original ground ; whilst those parts only where the gravers have made the hollows or incisions are afterwards filled up with red. The *Shan Yowon*, though executed by Burmese workmen, can never be made to look so well as that done in the *Shan* countries, owing either to the *theet-tsee* not being so fresh and pure, as the workmen allege, or to the *Shans* making use of some other materials unknown

to the Burmese, which last, I am inclined to think, is the more probable cause. The Burmese also state, that the *Shans* allow their lacquered-ware several months to dry between each stage of the manufacture. But a much more easy and expeditious mode of engraving is the *Burma d,ho* or *Burma Yowon t,ho*. It is usually executed over a coat of vermilion, but it may be done before that colour is given, and upon a black ground. The figures and ornaments here are cut in the style of our line engraving, ⁽¹³⁾ and when completed, some plain *theet tsee* is rubbed over the whole, and immediately wiped off with a piece of cloth. A little *Shan-zee* or *Shan* oil is then rubbed on, and wiped off in the same manner. Some yellow sulphuret of arsenic, or orpiment, called by the Burmese *tshè-dan*, and by natives of India *hartal*, is powdered fine, and rubbed dry over the surface of the lacquered ware. The mineral adheres only to the lines cut or scooped out, ⁽¹⁴⁾ and displays at once in a bright yellow colour the figures and ornaments designed. Nothing further is done unless a finer polish is required, in which case the polishing powder before described is used, after the lapse of some days. Sometimes a little of the orpiment is mixed with *Shan* oil and *theet-tsee*, and a coat of it put over the whole ware and wiped off, and the powdered mineral then rubbed on. This process seems to be the best, as the hollows and incisions of the gravers are more filled up in this manner. The orpiment is powdered very fine, and large quantities of it are rubbed on the ware with the fingers. Green *atsein* is put on in the same manner, the colour being previously made with the *tshe-dan*, and either the juice from the leaf of a plant called *gwè-douk-beng*, or indigo, ten parts of *tshe-dan* to one of indigo. I have tried to use some English lamp black, Prussian blue, and chrome as this orpiment is used, but without success; probably other of our paints, or even these with some addition, might be employed in this simple and expeditious style of ornamenting wood-work or lacquered-ware with the aid of *theet-tsee*. The Burmese admire much these kinds of engraving, but I think the plain scarlet or black surfaces, when polished, look better. The different kinds of japan work are always distinguished, if engraved, with the epithet *yowon t,ho*, *yowon t,ho thamen-tsa out-kyee*, *yowon t,ho kwon-eet*, &c. &c.

As the best mode of ascertaining the manner in which the ware is manufactured, I engaged at different times two parties of Burmese workmen to attend at my house, and prepare some cups in my presence, when I had an opportunity of daily watching their progress. The first party consisted of rather rude workmen, but the second was sent to me by the Burmese

ministers, and some among this party prided themselves upon having made betel boxes for her majesty the Queen.

A frame of bamboo basket-work ⁽¹⁾ of the size and description required, was first made over a wooden form or *poun*; the finer the basket-work, the lighter and finer will the lacquered-ware appear when finished. There are two kinds of bamboo used—one called *myen-wa*, for the coarser kind of basket-work, and the other *ten-wa*; and there are three kinds of weaving or “*ayet*” of the basket-work required for lacquering. The first and finest, and that of which all the smaller *nyoung-oo* boxes, and almost all *Shan* boxes are made, is called *kyoung-lein yet*.⁽¹²⁾ The second, used chiefly for cups, except the rims, which are of the first pattern, is called *katein-gya-yet*.⁽¹⁾ The third is used for the large round boxes, and for any coarse work, and this is called *powet kyoung-yet*.⁽⁴⁵⁾ The frame-work of the large lacquered boxes, with high conical tops, is almost always of separate pieces of wood joined together.

Upon the outside only of this basket-work, ⁽²⁾ with the wooden form inserted, a thin coat of *theet-tsee* was applied with a brush made of the fibres of the cocoa-nut husk. This was allowed three days to dry—not in the sun, but in a cool sheltered part of the house, within an old wine chest, which had a layer of earth at the bottom and its inner sides covered with mud. The box was shut up also, so as to prevent any dust from falling upon the article—yet the workmen complained that the varnish did not dry so hard or quickly as it would have done in a subterraneous vault. Every house in Ava where this ware is manufactured, has a deep cellar or vault, in which the ware is lodged during the time the varnish is drying. In some *Shan* boxes, parts of the basket-work are left plain, and are not covered with *theet-tsee*, and of these the basket-work is very fine and delicate.

At the end of three days a kind of paste was made and put over the basket work.⁽³⁾ There are several kinds of this paste, which is called *tha-yo*, probably from *tha-yowot*, mortar. One kind is made of bones calcined and pounded, sifted through a piece of cloth very finely, and then mixed with the *theet-tsee* into the consistence of paste. This is called *ngowa-yo-bya-tha-yo*, “cow’s-bone ashes *tha-yo*,” or simply *amè*, or *ayo-bya-tha-yo*, “bone ashes *tha-yo*.” Another kind, and which is most commonly used, is made of bran or the husks of paddy burnt, and the ashes sifted and mixed with the *theet-tsee*; this is called *phwè-bya tha-yo*, “bran ashes *tha-yo*.” A third kind is made of the saw-dust of teak-wood mixed, without being

burnt, with *theet-tsee*; this is called *kywon-theet-lhwa-za-tha-yo*, "teak-wood saw-dust *tha-yo*," or simply *lhwa-za-tha-yo*, "saw-dust *tha-yo*:" it is of a thicker consistence than the other two, more like mortar, and moistened with a little spittle as it is applied. This paste is used in filling up any little holes, and joining on the stands or different pieces together; and the separate parts of the frame-work of the high conical-boxes⁽¹⁵⁾ are fixed together with this cement, which becomes as hard as wood, and which would really assist the famous project of "converting saw-dust into deal boards." The ornaments, like little rails, fixed around the sides of some of the boxes, are made with this *tha-yo*, pressed with little tin moulds or stamps into the pattern required, and then fastened on. A fourth kind of paste is made with the ashes of cow-dung, *ngowa-gyee-bya*, sifted finely and mixed with *theet-tsee* which has been put over a fire until beginning to boil: the two are then well mixed and beat together, whence this paste is called *tè-tha-yo*, or "beaten *tha-yo*." This looks like putty, and is used principally by gilders in fixing flowers or other ornaments upon wood-work, to which it adheres very tenaciously; and before it hardens it is so pliable and elastic, that it may be drawn out into the finest lines and twisted into any shape. But much of the cheapest and coarsest description of japanned ware, manufactured at *Nyoung-oo*, is said to have the basket-work covered with a paste of cow-dung and mud only, over which one or two coats of *theet-tsee* are applied. This paste is always liable to crack, and to chip off the basket-work, and the Burmese consider this kind of manufacture, in which very little *theet-tsee* is used, as an imposition.

All the above descriptions of paste form good cements for joining wood-work. For this purpose the best kind is a mixture of the "bone-ashes *tha-yo*" with a little teak saw-dust; and I have found it answer as an excellent substitute for glue, not being so liable to be affected by damp weather: it is only longer drying, as much as five or six days. It answers very well, also, in filling up the cavities left in fine cabinet-work, when the thin black edging has broken or fallen off. When dry, it must only be rubbed smooth and even with a stone, in the manner hereafter to be described.

To return to the cups which the Burmese workmen prepared under my eye. On the second day, the rim of the cup⁽³⁾ was cut round smooth, and the fine description of basket-work at the top was scraped and thinned with a knife, so as to bring it more on a level with the other part. The hole at

the bottom, where it is fixed to the form while weaving, was filled up with a little of the "saw-dust *tha-yo*." The whole, inside and outside, was then covered over with a paste made of *theet-tsee*, bone-ashes, and saw-dust, three parts of bone-ashes to one of saw-dust. The workmen called this the *tha-yo-gyan*, or coarse *tha-yo*, declaring that for this first coat of priming this mixture of the two was best, as adhering most closely to the bamboo basket-work. It was applied with the fingers.

At the end of three or four more days, the rim of the cup was cut still more even, and the cup was fastened to a lathe called *tset-khoun*,⁽⁴⁾ and the inside was ground perfectly smooth and even, in the manner that will shortly be described. A coat of *ayo-tha-yo*, "bone-ashes *tha-yo*," or *tha-yo-akhyan*, "fine *tha-yo*," was then put on with the hand in the inside, and laid smooth with the finger which was occasionally dipped in water. At the lathe, the left hand is employed on the cup, whilst the machine is turned to and from the workman with the right hand, by means of a long stick tied to a leathern string that has two turns around the lathe. Forms or chucks of the size required are fixed to the spindle of the lathe, with little pieces of bamboo; and when the outside of the cup is to be turned, the cup is fitted to these chucks, which enter about an inch and a-half within it. But when the inside of the cup is to be turned, a cylinder of coarse basket-work open at both ends, called *tsee*, is fixed to the chuck, and within this cylinder the whole of the cup is lodged, and fastened, if necessary, with little slips of bamboo at the sides. To make the coat of coarse *tha-yo* perfectly smooth and even, the cup is smeared over with a little water and a kind of red earth, and then turned against a piece of pumice stone, and occasionally moistened with more water. The cup was placed in the sun to become perfectly dry before the fine *tha-yo* was put on. The large boxes ^(15, 16, and 17) with high tops are fastened to a different kind of lathe; the upper end is either inserted into one side of the lathe, or fitted on a pin there, and to the bottom is fixed a piece of wood, which revolves around another piece fastened to the other side of the lathe: the two sides of the lathe may be made to approach or recede, as required to hold the ware between them: the string is put round the box, and the left hand usually moves the stick, whilst the right holds the pumice-stone, &c. Usually one coat only of *tha-yo* is put on the wood-work of these boxes, but they are rubbed smooth, and even *three* times, with the different kinds of stone: once after the *tha-yo*, once after the first coat of varnish, and the last time after a second coat of the varnish.

The *tha-yo* is put on at once over the wood, and there are three coats of varnish before the vermilion is applied.

At the end of three more days, ^(5, 6) the cup was again fixed to the lathe, and the outside was treated in the same manner as the inside had been before, the coat of coarse *tha-yo* on the outside being rubbed smooth and even, and when perfectly dry a coat of fine *tha-yo* put on. The workmen said that it is better to do only one side at a time.

At the end of three more days ⁽⁷⁾ the cup was fixed to the lathe, and the inside made smooth and even with a kind of sand-stone, called *kyouk-pyen-gwè*, and a little water; then with a rag and a little finely powdered teak-wood charcoal and water; and lastly, with a moist piece of cloth. When perfectly dry in the sun, a coat of plain *theet-tsee* of the best kind, or *theet-tsee ayoung-den*, was put on in the inside with the finger. This was done in the sun, to which the cup was afterwards exposed for about a quarter of an hour. The workmen seem to prefer always to use the varnish in the sun. Besides the *kyouk-pyen-gwè*, which is the same kind of stone as that on which the Burmese grind sandal-wood to rub over their bodies, there is a stone of a finer grain sometimes used, called *shwè-gan-gyouk*, from the circumstance, I am told, of gilders using it to polish the articles they intend to gild.

At the end of four more days ⁽⁷⁾ the cup was fixed to the lathe, and the outside was treated exactly in the same manner as the inside had been on the preceding day, ground smooth, and covered with a coat of fine *theet-tsee*.

At the end of five or six more days, for the varnish did not dry sufficiently before that time, a second coat of the fine varnish, or *theet-tsee ayoung-den* ⁽⁸⁾ was put on the outside and inside of the cup.

Before applying a coat of vermilion, the cup was fixed to the lathe, ⁽¹⁰⁾ and the polish of the two fine coats of *theet-tsee* was removed, by turning the cup against the stone *kyouk-pyen-gwè* only, and afterwards against some bran and water pressed upon it with the left hand. This operation was also performed, and some powdered teak-wood charcoal and water with a rag were used to remove the transparent effect of the fine *theet-tsee*, before the polishing powder ⁽⁹⁾ above described, *en-gyen kyouk-tshoowè amhoun*, was used; in doing which the cup was turned against the palm of the left hand, smeared with a little of the powder.

In gilding, the wood-work is primed two or three times with the *ayo-bya* or *phwè-bya tha-yo*, and rubbed quite smooth and even with the stone and

water before the gold leaf is put on ; which is done, as Dr. WALLICH describes, “ by besmearing the surface very thinly with the varnish, and then immediately applying the gold leaf.” The priming is of course here necessary to fill up the cavities in the wood, and produce an equal surface before the gold leaf is put on. A little piece of cotton is dipped in the varnish and rubbed slightly over the work, and before the surface is dry, the gold leaf is put on with the thumb and finger, and gently smoothed over with another clean piece of cotton. The gilders also use a brush of the thickness of a man’s thumb, with which small pieces of gold leaf are taken up and introduced into cavities or hollow ornamental parts of the wood-work, in the same manner as our gilders use a squirrel’s tail. This brush is made of the hair taken from the inside of cows’ ears, and the workmen declared that it requires a hundred cows to make one brush. I had a picture-frame gilt, and although the gilding has not the lustre of one of ours, it has the advantage of adhering to the frame ; for the Burmese priming does not break and chip off as the coat of whiting over our picture-frames does. The Burmese have no idea of burnishing their gilding ; and if their priming would take the burnisher, their gilding would not only equal ours in lustre, but, being more durable, would be preferable. The workmen could make nothing of a dog’s tooth, which I pointed out to them as a burnisher ; but this was owing probably to our not knowing the exact time of applying it. The priming on their wood-work is about one-half of the thickness of the coat of whiting on one of our picture-frames, but of course it could be made thicker, if necessary ; and it would be useful to know, if the gilding over their priming could be burnished. In Siam, most of the gold leaf used for gilding is imported from China, but the Burmese prefer to make their own, and they beat it far too thin, for it is full of holes, and requires to be doubled in many places, which not only leads to much loss but prevents the gilding from appearing so smooth as that of the Siamese. They also mix a great deal of alloy with the gold from which they manufacture the leaf, contrary to what Colonel SYMES was informed ; and hence the gilding of all Burmese pagodas and public edifices soon looks dull and shabby, particularly where exposed to the weather. Few remains can be now traced of the gilded *kyoungs* seen by SYMES at *Amarapura*, nor is there any gilding now to be seen on the great Arracan gun. The splendour of the King’s palace at Ava, although the gilding has not been executed more than eight or nine years, is not so great as it must have been when Mr. CRAWFORD visited this

capital : and the gilding of the *shwè-da-gon* pagoda at *Rangún* now looks very black and shabby ; whereas at *Bangkók*, I recollect the Portuguese Consul pointing out to me the excellent state of preservation of the external gilding of a pagoda, which was described to have been gilded no less than sixty years before.

All the different purposes to which the *theet-tsee* is applied in this country can scarcely be enumerated. It is *boiled* and used for writing on polished tables of wood or ivory, particularly in the *Pali* character. The umbrellas of all classes are made with paper and two or three coats of varnish ; over which, whenever required, gold leaf is easily put on in the manner above described. Cheap buckets are made by covering a coarse bamboo basket-work with only two or three coats of this varnish. Almost all domestic utensils are made with this substance and basket-work or wood. I should think very light portmanteaus or *patarahs* might be made, by applying over a bamboo frame-work this varnish and the *tha-yo*, which, filling up all the cavities, would render them impervious to water ; rattan might be too heavy, and the priming might not adhere so well to its polished surface. It is necessary to mention, that the surface of the *theet-tsee*, when kept, is always covered over with two or three inches of water, to prevent the varnish from drying or becoming hard.

Observing that Dr. WALLICH had never seen the *theet-tsee* tree in flower, I requested Dr. RICHARDSON, during his late overland journey to the frontiers of *Manipura*, to bring me a specimen. He passed through extensive forests of the tree from a place called *Myagu*, about five days' journey from Ava, to the *Manipura* boundary. The trees were very large, and had a beautiful appearance, from being covered with flowers so abundantly that the leaves were concealed, and the trees were one mass of white. The bark appeared quite dry, and no juice was oozing at the little slips of bamboo which he saw sticking in the trunks of the trees. The flower has a fragrant scent, resembling that of apples, and the Burmese eat the young buds in *curries*. I send a specimen of the flower, which Dr. RICHARDSON brought to me last month (February).

The account given under the article 'Japanning,' in REES's Cyclopædia, of the varnish used in China and Japan, "composed of turpentine and a curious sort of oil," and of the *lack*, "sap or juice of a tree occasioning swellings in the hands and faces of the people who use it," answers a good deal to the *Shan* oil and *theet-tsee* here described ; yet the Burmese workmen,

upon examining a piece of japanned ware of China, considered it to be made of a different material, unknown to them.

With this paper, I send the following articles * used by Burmese japanners, and specimens of their manufacture :

No.

Fourteen *akhwet* or cups, shewing the japan-work in the different stages of manufacture, *viz.*

1. Frame of basket-work.
2. A coat of plain *theet-tsee*, applied to the outside of the basket-work, after the rim has been cut round.
3. The upper basket-work scraped thin with a knife, and the rim cut smoother ; then the hole at the bottom of the cup filled up with *lhwa-za tha-yo*, or saw-dust *tha-yo*, and a coat of the *tha-yo-gyan*, or coarse priming of *theet-tsee*, calcined bones and saw-dust, applied to the inside and outside.
4. The inside ground smooth on the lathe with the pumice-stone, red earth, and water.
5. The outside ground smooth in the same manner, and the inside covered with a coat of the *tha-yo akhyau*, or fine priming of *theet-tsee* and calcined bones only.
6. The outside as well as inside covered with the fine priming.
7. The outside and inside ground and made smooth on the lathe with the *kyouk-pyen-gwe* stone, teak-wood charcoal, and water, and with a wet cloth.
8. Two coats of *theet-tsee ayoun-gden*, or first kind of varnish applied.
9. Outside finished with the polishing powder.
10. Inside and outside covered with a coat of the first kind of vermilion, or *han-za-pada yowè*.
11. The *Shan yowon-t'ho* or engraving, before the incisions and hollows of the gravers have been filled up with vermilion.
12. The *Shan yowon-t'ho* completed, and a coat of the semi-transparent mixture put on.
13. The *Burma d'ho*, or *Burma yowon-t'ho*, before the yellow or green colour has been applied.
14. *Burma d'ho* completed. The *tshe-dan* or orpiment rubbed on, and the polishing powder applied.
Three *tha-men-tsa out-gyee*, or dinner-boxes, manufactured at Ava, and shewing this japan work in the different stages of manufacture, *viz.*
15. The wooden frame-work joined together with saw-dust *tha-yo*.
16. The same covered with a coat of *phwè-bya-tha-yo*, which has been ground smooth on the lathe.
17. The box completed, having had three coats of *theet-tsee* over the *tha-yo*, before the vermilion was put on.
18. A basket-work frame of a *kwon-eet* or betel box, shewing the *kyoung-lein-yet* or weaving. Cup No. 1, is a specimen of the *ka-tein-gya-yet*, excepting the border round the rim, which is of the first kind of basket-work.
19. A Burmese bucket of basket-work.

* Now in the Society's Museum.

No.

20. Specimen of the *Myen-wa* bamboo.
21. Ditto of the *Ten-wa* bamboo.
22. Shewing how the *ten-wa* is cut for weaving basket-work.
23. A small deal box covered with the fine priming, and a coat of the first kind of varnish—a part of this box is gilt.
24. A packet containing specimens of *kyouk-pyen gwé*, *shwé-gan-gyouk* and *gé*, and other stones used in the manufacture of lacquered-ware; also, some of the red earth used with the *gé*, and a brush made of coco-nut fibre.
25. A packet containing two *tsout*, one *gouk*, and a piece of *shwé-zet-tau-kyouk* or slate.
26. One packet, containing a piece of petrified *en-gyen* tree, with some of the polishing powder, called *en-gyen kyouk tshúwé amhoun*.
27. One do., containing four specimens of vermilion: *han-za-pada yowé*, first sort; *han-za-pada ayé*, second sort; *han-za-pada gouk*, third sort; and *han-za-pada atshoun*, Chinese vermilion; and a specimen of the Chinese cinnabar or *ayain*; a piece of *tshe-dan* or *hartál*, and of *atsein* or green paint.
28. One packet, containing a little Burmese gold leaf, said to be manufactured from gold of *ko-mú*, or nine *mú* touch.
29. One form or *poun*, on which the basket-work of cups is wove, with a cup upon it.
30. One Burmese lathe, or *tset-khoun*, with a chuck or *poun* fixed to it with slips of bamboo.
31. One chuck or *poun*, for ditto, shewing how the cup is fixed to the lathe.
32. One *tsee* or basket cylinder, for ditto, shewing how the cup is lodged in it.
33. One *Shan kwon-eet* or betel-box of red colour, shewing the *Shan yowon-t'ho* or engraving, imported from Laos.
34. One *Awa kwon-eet* or betel-box of green colour, showing the *Burma yowon-t'ho*, manufactured at Ava.
35. One *Nyoung-oo kwon-eet* of yellow colour, and of a coarse description, manufactured at *Nyoung-oo*, and shewing the *Burma yowon t'ho*, suspected to have the mud and cow dung priming only.
36. One *Awa kwon-eet* of black colour, finished with the polishing powder; manufactured at Ava.
37. One *Pugan kwon-eet*, of yellow colour and of a superior description, shewing the *Burma yowon-t,ho*; manufactured at *Pugan*.
38. One small *let-pek-out*, or box for keeping *let-pek* tea; coarse, and made in Ava.
39. Three bottles of the *theet-tsee ayoung-den*, first kind of Burmese varnish.
40. Two do. of *theet-tsee anee-byau*, second do. do.
41. One do. of *theet-tsee tha-yo-byau*, third do. do.
42. One do. of *amé-bya*, or *ayo-bya*, calcined bones powdered and sifted fine.
43. One do. of *phwé-bya*, ashes of paddy husk sifted fine.
44. One do. of *Shan-zee*, or *Shan* oil.
45. A specimen of the *powet-kyoung-yet* style of bamboo basket-work.

H. BURNEY.

Ava, March 9, 1831.